

REMARKS

Claims 1-47 are pending in the present application. Claims 6-9, 14, 17, 38, 39 and 44 are amended and claims 18, 19, 40 and 47 are canceled. Reconsideration of all pending claims is respectfully requested in light of the amendments made and the arguments presented below.

Claims 12, 39 and 40 were objected to. Claim 12 is amended to end with a period. Claim 39 is amended to depend from claim 34 and claim 40 is canceled. Thus, it is believed that the objection has been overcome.

Claim 1 was rejected under 35 USC § 102(e) as being anticipated by Moshayedi (US Patent Application Publication No. 2002/0091965). However, claim 1 recites, “updating a counter, the counter being arranged to be updated each time a spare unit of erase of the plurality of spare units of erase is reassigned.” This limitation does not appear to be shown by Moshayedi. Moshayedi appears to disclose a system where “the receipt of an updated spares count may come in response to a request,” paragraph 0051, lines 1-2. Such a request is disclosed as being triggered by various events (see paragraph 0051). However, reassignment of a spare unit of erase is not disclosed as a triggering event. In fact, it appears that Moshayedi uses triggering events that are not directly related to the reassignment of spare units of erase. For example, “a fixed period of time,” “a varying period of time,” “a fixed or a varying period of device operation time,” “a given number of one or more erase/write operations,” and “an increased rate of defect occurrence” are listed as triggers (see paragraph 0051). In contrast, claim 1 requires dynamic updating of a counter “each time a spare unit of erase of the plurality of spare units of erase is reassigned.” Such dynamic degradation detection does not appear to be taught in the prior art. Because this limitation is not shown, claim 1 is submitted to be allowable over the cited reference. Claims 2-5 depend from claim 1 and are therefore submitted to be allowable at least for depending from an allowable base claim.

Claim 6 was rejected under 35 USC § 102(e) as being anticipated by Moshayedi. Claim 6 includes the limitation “updating the counter each time a spare unit of erase of the plurality of spare units of erase is reassigned.” This limitation is similar to the limitation of claim 1 discussed above and claim 6 is submitted to be allowable for similar reasons. In addition, claim 6 is amended to include limitations that were formerly included in claims 18 and 19. Claim 6 as amended includes the limitation, “the controller is arranged to reassign a spare unit of erase included in the plurality of spare units of erase in response to a request from the host system.”

No such reassignment appears to be shown by Moshayedi. Moshayedi appears to disclose reassignment in response to location defect detection. "When a storage location defect is detected during a write operation, the data that was intended for storage in the now-defective location can be written instead to a 'spares' location," paragraph 0009, lines 14-17. However, such reassignment appears to occur without any host involvement. Because this limitation has not been shown, claim 6 is submitted to be additionally allowable. Claim 6 is also amended to clarify certain claim language, for example replacing "being arranged to indicate" by "indicating."

Claims 7-20 depended from claim 6. Claims 18-19 are canceled as their limitations are now recited in claim 6. Claims 7, 8, 9, 12 and 14 are amended to clarify the claim language and to be consistent with the language of claim 6. Claims 7-17 and 20 depend from claim 6 and are submitted to be allowable at least for depending from an allowable base claim.

In addition, claim 15 recites, "the plurality of units of erase are a plurality of sectors, and the plurality of spare units of erase are a plurality of spare sectors." This limitation does not appear to be shown by Moshayedi. Moshayedi discloses, "a plurality of individually erasable and addressable storage locations 214, 216, 218, 220 also called rows. In one embodiment, a row 214, 216, 218, 220 typically holds a plurality of sectors," paragraph 0039, lines 2-5. Thus, it appears that the unit of erase of Moshayedi is made up of multiple sectors and a sector is not a unit of erase. Because this limitation has not been shown, claim 15 is submitted to be additionally allowable over the cited reference.

Claim 20 recites, "the memory system is one of a PC card, a CompactFlash card, a MultiMedia Card, a SmartMedia card, a Memory Stick card, and a Secure Digital card." This limitation does not appear to be disclosed by Moshayedi. The Office Action cited Figure 1A and paragraphs 32-34 as showing this limitation. However, no reference to any of the six listed card formats was found in the cited portions. It is requested that any reference by Moshayedi to one of these six formats be identified specifically, or that the rejection be withdrawn.

Claim 21 was rejected under 35 USC § 102(e) as being anticipated by Moshayedi. Claim 21 recites, "the controller being arranged to update the counter each time a spare unit of erase of the plurality of spare units of erase is reassigned." This is similar to the limitation of claim 1 discussed above and claim 21 is submitted to be allowable for similar reasons to those given with respect to claim 1. Claims 22-33 depend from claim 21 and are submitted to be allowable at least for depending from an allowable base claim. In addition, claim 30 recites, "the memory card is

one selected from the group consisting of a PC card, a CompactFlash card, a MultiMedia card, a Smart Media card, a Memory Stick card, and a Secure Digital card.” This limitation is similar to the limitation of claim 20 and was rejected on the same basis in the Office Action. However, as discussed above, none of these card formats appears to be disclosed by Moshayedi. Thus, claim 30 is believed to be additionally allowable.

Claim 34 was rejected under 35 USC § 102(e) as being anticipated by Moshayedi. Claim 34 recites, “the counter being arranged to be updated each time a spare unit of erase of the plurality of spare units of erase is reassigned.” This limitation is similar to the limitation of claim 1 discussed above and claim 34 is submitted to be allowable for similar reasons to those given with respect to claim 1. Claims 35-38 depend from claim 34 and are submitted to be allowable at least for depending from an allowable base claim.

Claim 39 was rejected under 35 USC § 102(e) as being anticipated by Moshayedi. Claim 39 is amended to include the limitation, “saving the indication” where the indication indicates “that the non-volatile system is nearing the condition which renders the non-volatile memory system as being substantially unreliable.” This limitation was previously recited in claim 40. Claim 40 is canceled. This limitation does not appear to be shown by Moshayedi. The Office Action cited paragraph 56 as showing this limitation. However, paragraph 56 appears to disclose saving updated information that corresponds to user data, not saving an indication of an unreliable condition. “With respect to state 460, a variety of embodiments of preemptive action exist... In one embodiment, information is updated and stored,” paragraph 56, lines 18-21. This appears to refer to updating and storing of regular data stored in the memory as “preemptive action” to prevent loss of such data. There appears to be no disclosure that an indicator of unreliability is stored in this manner. Claims 41-43 depend from claim 39 and are submitted to be allowable at least for depending from an allowable base claim.

Claim 44 was rejected under 35 USC § 102(e) as being anticipated by Moshayedi. Claim 44 is amended to recite, “the non-volatile memory system is one of a PC card, a CompactFlash card, a MultiMedia card, a Memory Stick card, a Smart Media card, and a Secure Digital card.” This limitation was previously recited in claim 47 (now canceled). This limitation is similar to the limitation of claim 20 discussed above and claim 44 is submitted to be allowable for similar reasons to those given with respect to claim 20. In particular, Moshayedi does not appear to teach

using any of the listed memory card formats. Claims 45 and 46 depend from claim 44 and are therefore submitted to be allowable at least for depending from an allowable base claim.

Accordingly, it is believed that this application is now in condition for allowance and an early indication of its allowance is solicited. However, if the Examiner has any further matters that need to be resolved, a telephone call to the undersigned attorney at 415-318-1163 would be appreciated.

Respectfully submitted,

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Date



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